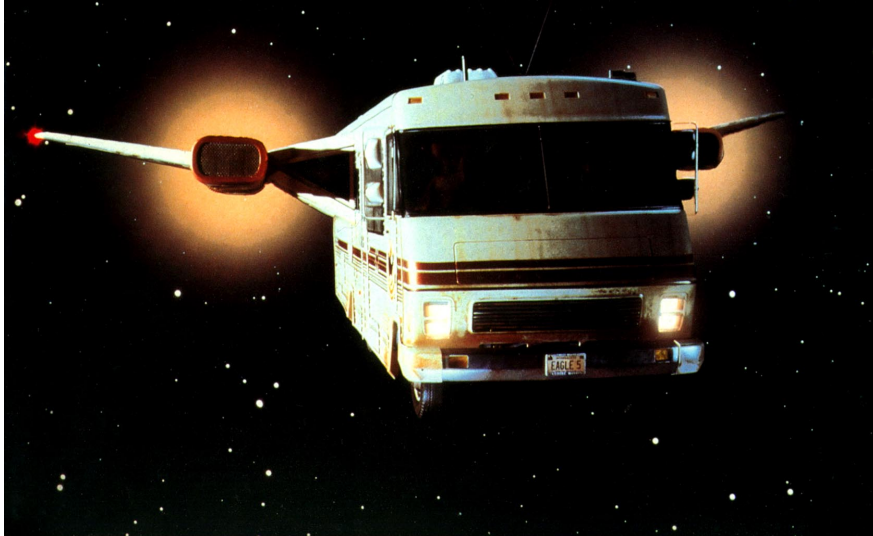


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Spaceballs — The Special Effects 4

In focusing his singular sense of humor on the science fiction film genre, Mel Brooks realized the ease with which he could have milked a few extra laughs by employing deliberately poor special effects. But instead, he wanted his parody to work within the context of a high-gloss production. To this end, he enlisted visual effects supervisor Peter Doney. Working primarily with Apogee — but with outside input from Illusion Arts and Industrial Light and Magic — Doney was able to orchestrate a full and varied array of cinematic illusions. *Article by Mark Elliot.*

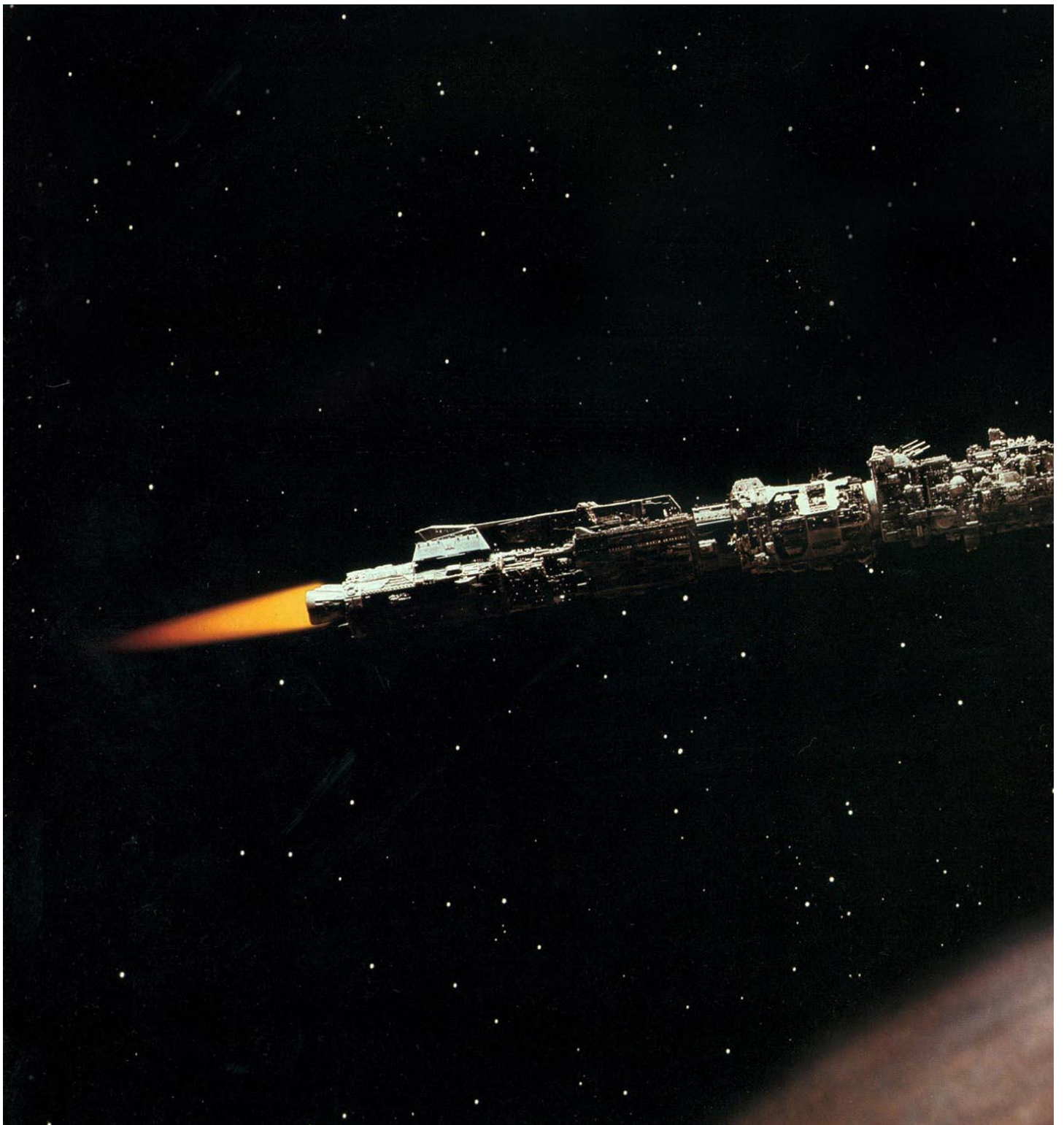
Witch Trials 26

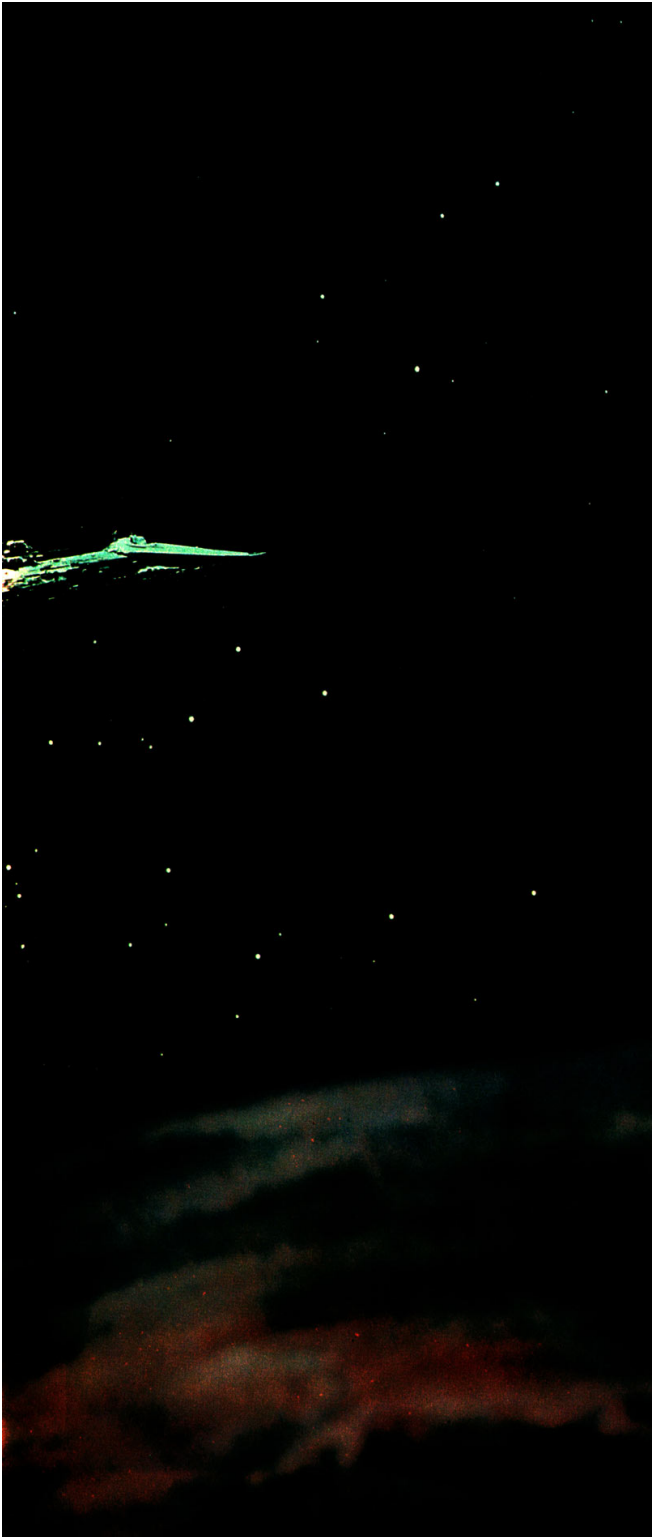
For director George Miller, *The Witches of Eastwick* was a formidable challenge — a supernatural comedy with a top-notch cast that required a deft touch to maintain its proper balance of humor and horror. Though effects would take a back seat in the production, it was necessary that they be brought to bear on such thorny problems as depicting a palatial mansion that did not exist, creating a tennis ball with a mind of its own and transforming actor Jack Nicholson into a fifty-foot demon. Engaged to accomplish these and other feats were Industrial Light and Magic and makeup effects artist Rob Bottin. *Article by Adam Eisenberg.*

Masters of the Universe 46

Though derived from a phenomenally popular toy line, *Masters of the Universe* would prove to be anything but fun and games for production designer William Stout, visual effects supervisor Richard Edlund and makeup artist Michael Westmore. With high expectations but minimal time and resources, the design and effects teams had to translate plastic dolls into flesh-and-blood characters, create a faraway fantasy world from scratch and implant nonstop optical trickery into a sword-and-sorcery adventure of extravagant proportions. *Article by Ron Magid.*

FRONT COVER — The stalwart Eagle 5 rockets through space in *Spaceballs*. Dot Matrix surveys her surroundings in *Spaceballs* — BACK COVER.





SPACEBALI

THE SPECIAL EFFECT

article by
Mark E.

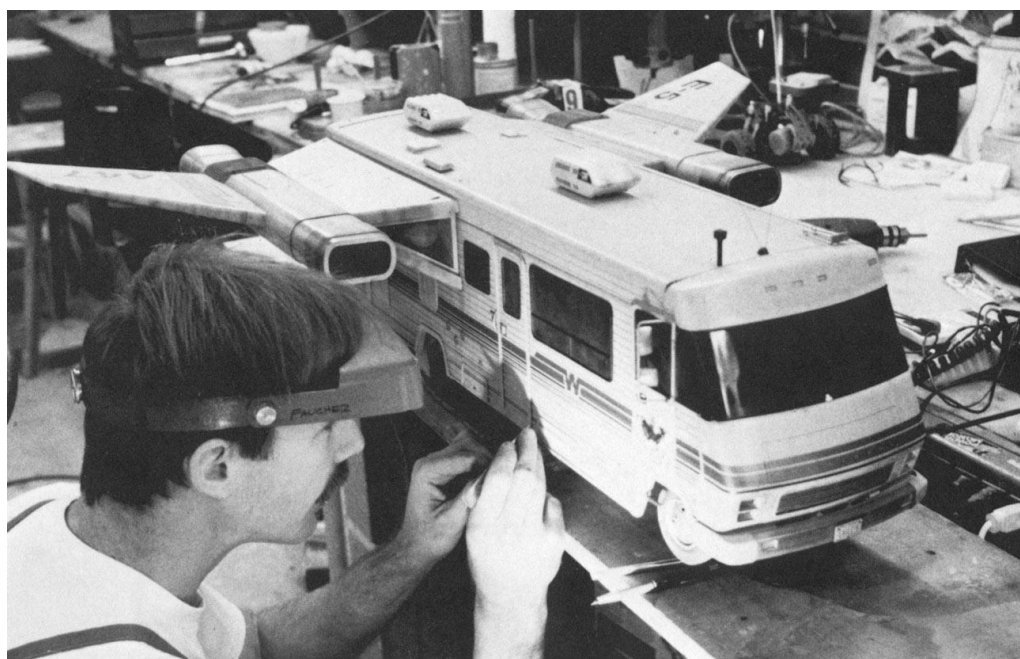
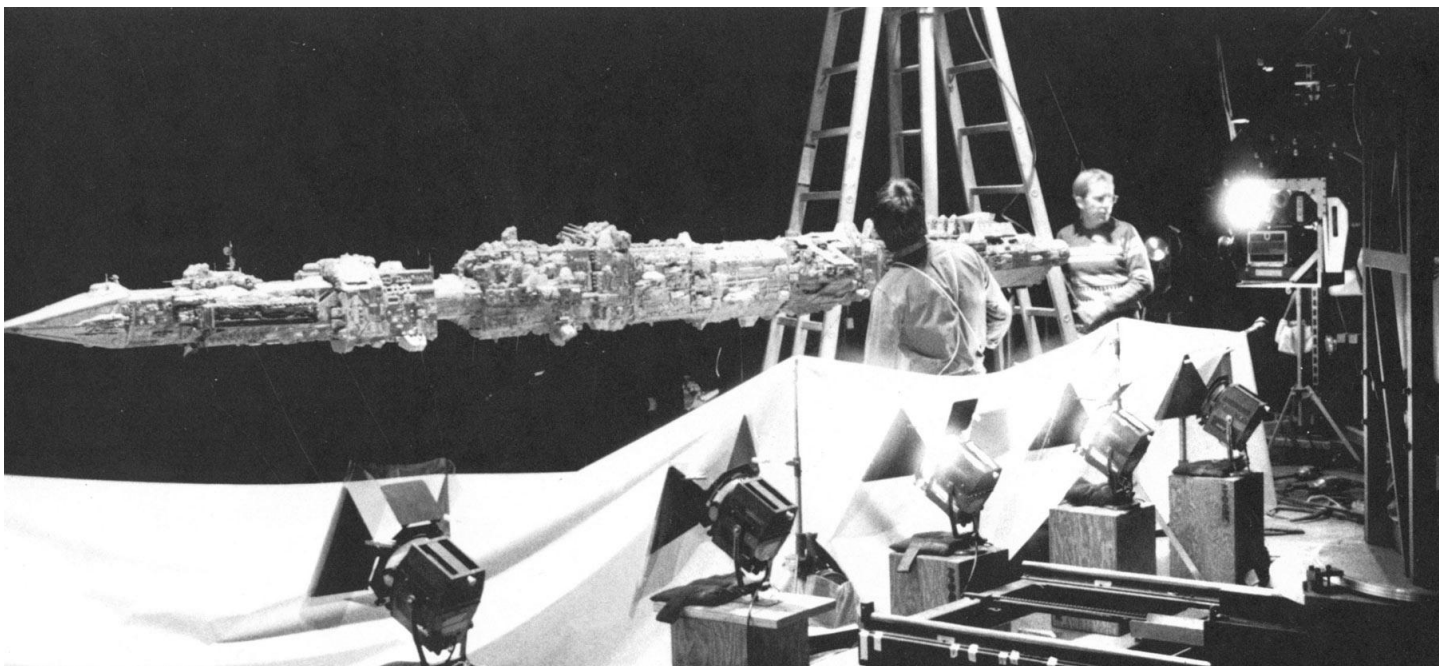
Director Mel Brooks sets up a scene with actor Rick Moranis — playing the infamous Dark Helmet — in *Spaceballs*, a comic assault on the science fiction film genre. / Surrounded by storyboards, special visual effects producer Percy Angress and visual effects supervisor Peter Donen review project status and scheduling requirements at Apogee — principal provider of visual effects for the film. / Modelmaker Tom Pahk and effects cameraman David Hardberger ready the giant Spaceball One battlecruiser for a motion control shot. / The cruiser — more than seventeen feet long and built in sections — was densely packed with practical lighting units and stepper motors. / Modelmaker Cory Faucher adds finishing detail to the

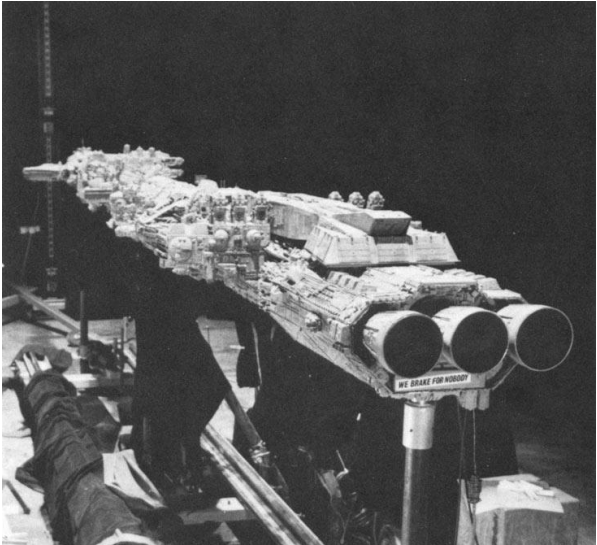
It was ten years ago this summer that *Star Wars* first made its mark in the universe — exhilarating the imagination of millions, reviving the endangered science fiction film and establishing new standards of excellence for motion picture special effects. In the intervening years, film audiences were shown the mystery, horror and wonder of alien worlds and creatures — sometimes even the humor — but a parodic perspective was rarely taken. Parody, however, has been the cornerstone of Mel Brooks' career. As a director, his first cinematic spoof, *The Producers*, took aim at Broadway musicals. Rewarded with a cult following, Brooks next lampooned westerns, horror films, suspense thrillers and even the history of man with his comic send-ups *Blazing Saddles*, *Young Frankenstein*, *High Anxiety* and *History of the World - Part I*. Given Brooks' past, it was inevitable that he would one day skewer the future — and so he has with *Spaceballs*, his \$22 million backhanded salute to science fiction films past and present.

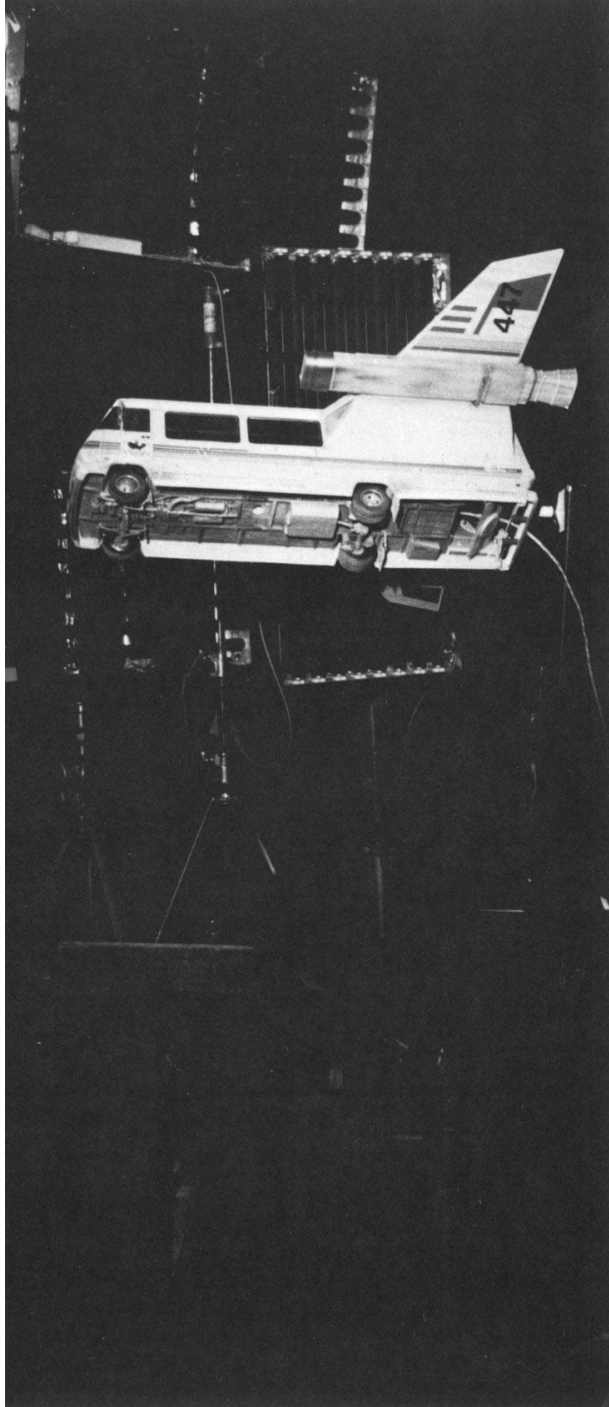
Spaceballs begins — as did *Star Wars*, its principal target — with an immense space cruiser rumbling past the camera. Commanded by the evil Dark Helmet — Rick Moranis as a stunted Darth Vader type — and his cowardly cohort, Colonel Sandurz, Spaceball One is en route to the peaceful planet of Druidia to steal its atmosphere. Under the leadership of President Skroob — played by Mel Brooks — the sinister Spaceballs have foolishly expended their own planet's atmospheric resources. The crafty Druidians, however, have made access difficult by erecting a transparent air shield around their entire planet. To gain entrance, the Spaceballs intend to abduct the Druiish Princess Vespa — betrothed in marriage to sleepy Prince Valium — and then ransom her for the combination to the air shield door. Leaving her boring prince at the altar, Vespa flees the wedding ceremony in her spaceborne Mercedes honeymoon coupe — accompanied by her droid of honor, Dot Matrix — but then is drawn into the awaiting Spaceball cruiser. Alerted to the princess' plight, King Roland of Druidia desperately seeks help from hero-for-hire Lone Starr and his sidekick Barf. And thus begins Chapter 11 of the *Spaceballs* saga.

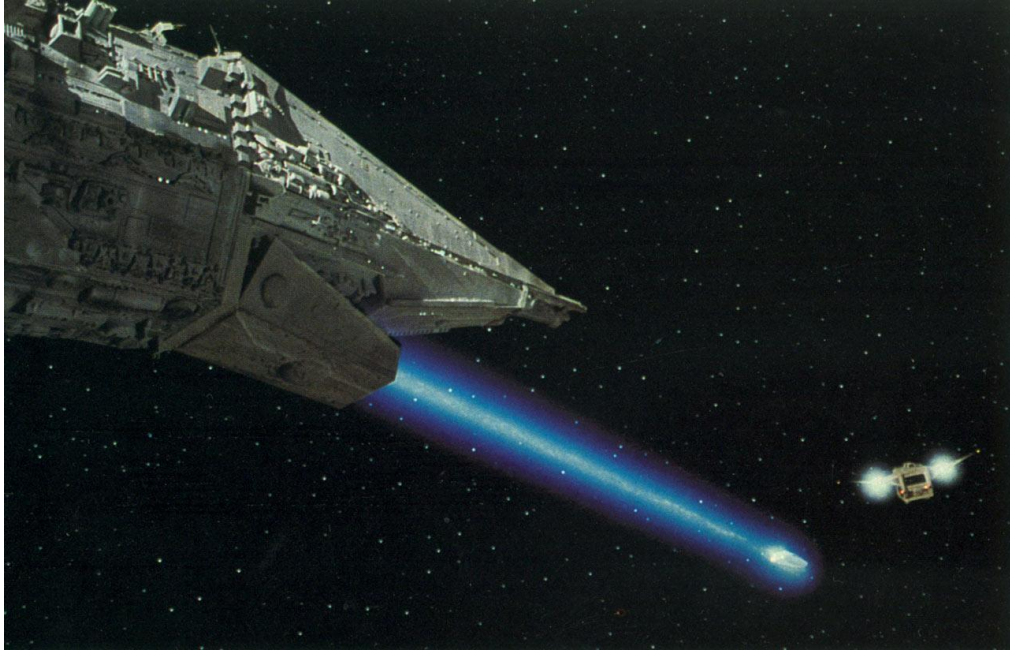
With only one year from project approval to release — a tough schedule for a major effects film — Mel Brooks promptly engaged the capable, efficiency-conscious Peter Donen to oversee the production of *Spaceballs*' visual effects. Prior to *Spaceballs*, Donen had been postproduction supervisor and laboratory liaison for Kaleidoscope Film Effects, and had then served as vice-president and director at Cinema Research. After eight years at Cinema Research, Donen satisfied a long-time personal goal and became a freelance effects supervisor on *Flight of the Navigator*. Though Brooks himself oversaw much of the effects work on *Spaceballs*, Donen felt that as visual effects supervisor he was given an ample free hand. "Mel is a wonderful director

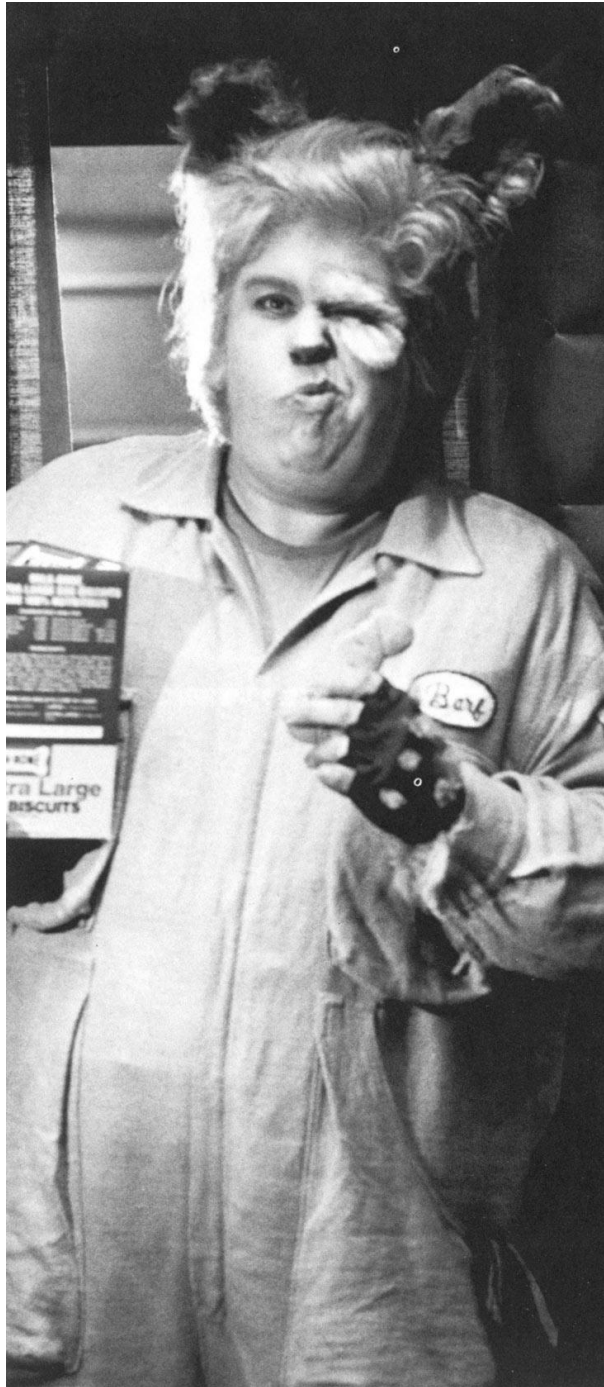




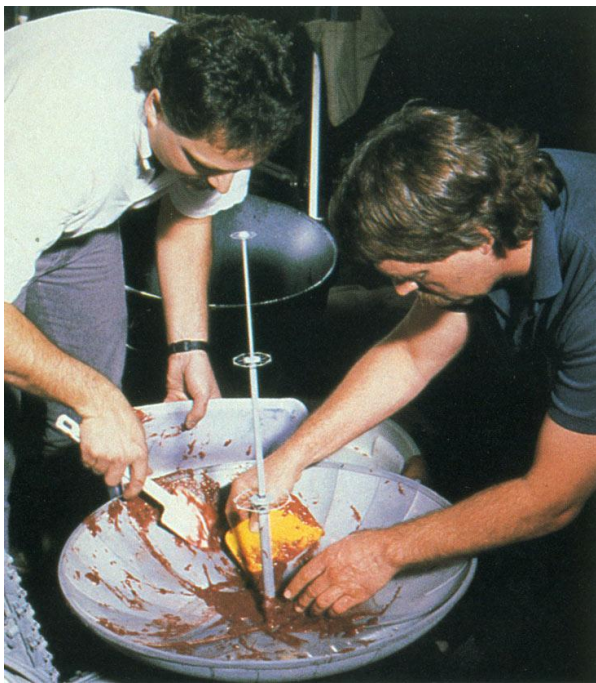
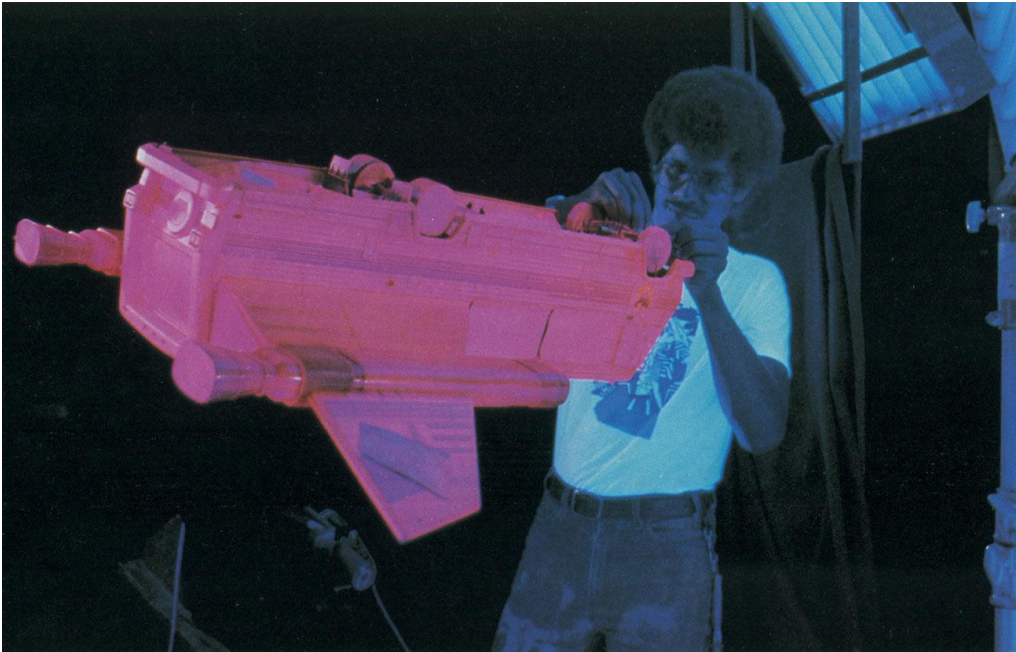










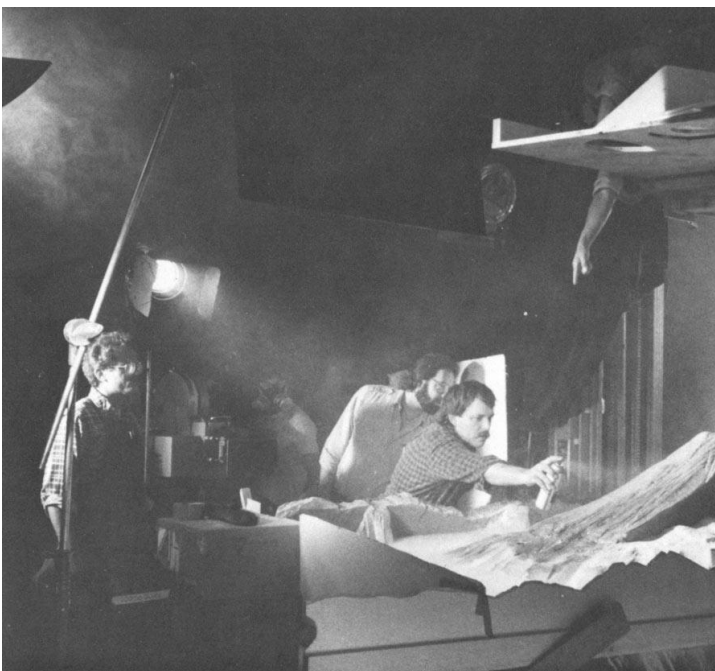




jam more readable on camera. The real jam was too dark, almost dropping off to black. For the jam jar, we used economy-sized mayonnaise jars scored on the inside so they would break up into irregular pieces. The structure itself was a steel boiler end plate — two-and-a-half feet in diameter and a quarter-inch thick — detailed to look like a radar dish. The jam jars were dropped from fourteen to eighteen feet and shot at many different high-speed frame rates. It was a mess when it hit the radar dish — jam went everywhere — and Grant and I had the job of cleaning up after every take. Just by chance, on one of the takes a big chunk of glass flew by the camera with the jam label very readable. It looked very funny.”

After jamming the Spaceballs’ radar and rescuing the princess and her droid, Lone Starr orders the Eagle 5 into ‘hyperactive’ speed and instantly leaves the Spaceball cruiser behind. Not to be outdone, Dark Helmet orders *his* ship into the untested ‘ludicrous’ speed. “The pattern seen through the windscreen of Spaceball One during ‘ludicrous’ speed was very similar to the weaving plaid pattern featured in the Burlington TV commercials,” Clint Colver noted. “We used slitscan to produce the complicated animation, and it required three minutes per pass on our motion control animation stand plus four passes for each frame. During the live-action, an interactive plaid pattern was projected onto the actors, simulating the pattern shining off the cruiser windscreen. Later, however, it proved difficult for us to match our image to the clearly focused pattern projected on the set.” Hyperactive speed quickly drains the Eagle 5’s fuel tanks, forcing a crash landing on the desert moon of Vega. Though space shots routinely demanded motion control and optical compositing, Peter Donen and his crew determined that the crash would best be achieved as a high-speed miniature effect. Consequently, the Apogee parking lot was transformed into a desert setting — backed with a large sky-blue painting — and the Eagle 5 model was flown in on wires.

Setting out on foot across the sand, the adventurers eventually find their way into the presence of Yogurt — a golden-skinned mystic played by Mel Brooks on kneepads. A parodic analog of Yoda in the *Star Wars* saga, Yogurt is the oracle of a magical power called the Schwartz. “Originally, Yogurt’s makeup application required two-and-a-half hours to apply,” Ken Diaz observed, “but Mel Brooks insisted that he could not sit idle for any longer than an hour-and-a-half. Therefore, we simplified the process by constructing a one-piece cap that contained Yogurt’s wrinkled scalp and his pointed ears. We took gold-based makeup and permanently applied it to the cap with rubber-based cement, then blended the same makeup from



jam more readable on camera. The real jam was too dark, almost dropping off to black. For the jam jar, we used economy-sized mayonnaise jars scored on the inside so they would break up into irregular pieces. The structure itself was a steel boiler end plate — two-and-a-half feet in diameter and a quarter-inch thick — detailed to look like a radar dish. The jam jars were dropped from fourteen to eighteen feet and shot at many different high-speed frame rates. It was a mess when it hit the radar dish — jam went everywhere — and Grant and I had the job of cleaning up after every take. Just by chance, on one of the takes a big chunk of glass flew by the camera with the jam label very readable. It looked very funny."

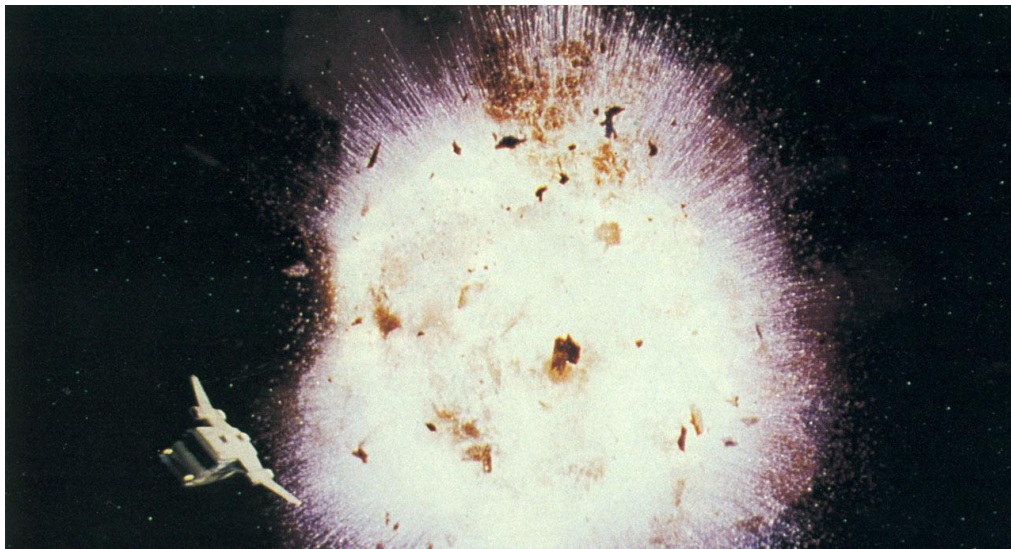
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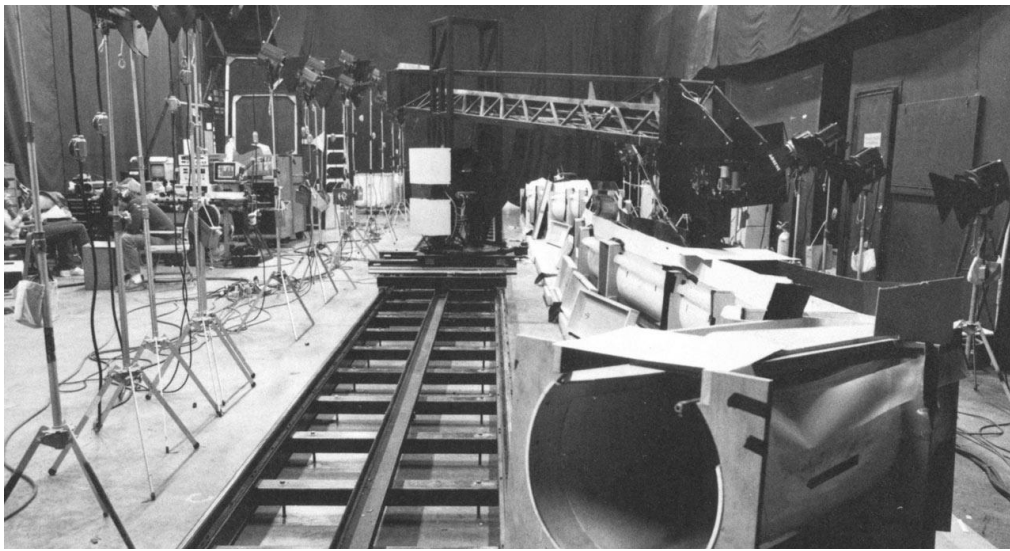
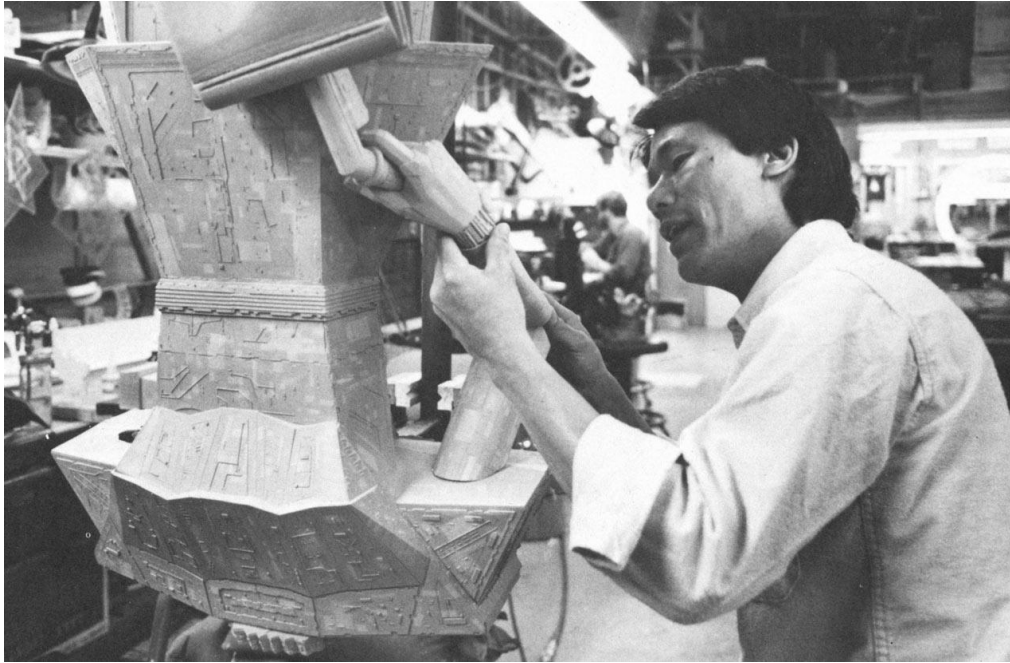












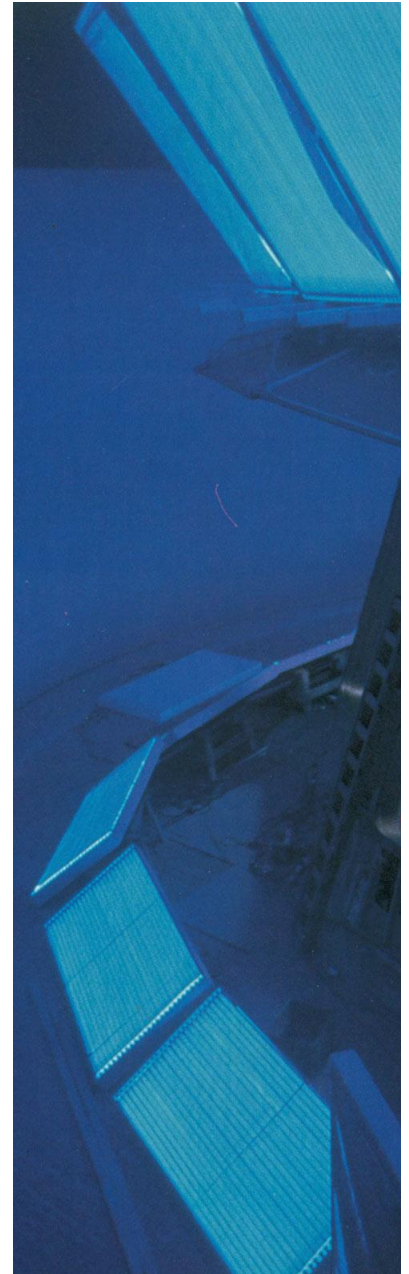
A gigantic blue screen was required for the expansive window areas incorporated into the Spaceball One bridge set. Since neither a backlit transmission screen nor the 'Blue Max' front projection system were possible options, Apogee developed a new high-output fluorescent tube that produced an exceptionally fine level of blue on a traditional frontlit fabric screen — generally thought to be a less-than-desirable medium. More than one thousand of these tubes were eventually installed on the set. / Still intact after the explosion, Megamaid's head and arm eventually come to rest on a distant planet. For closeups of the Spaceballs disembarking, a full-size mockup of the nose and lips section was constructed on location. / A master shot was subsequently produced in matte painting form by Albert Whitlock of Illusion Arts. / In all, Illusion Arts generated a dozen paintings — including a Syd Dutton

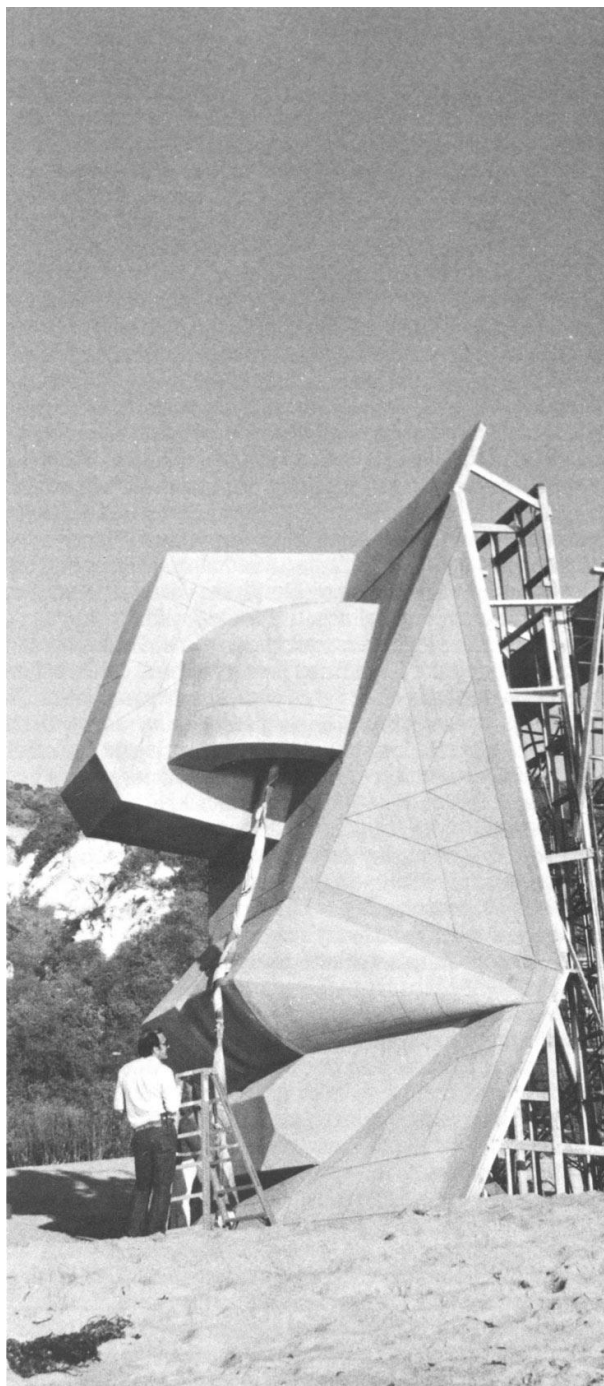
horizon glow was added in optical. The air shield door was two clear animation cels with an image of filigree artwork. The interior cel represented the door and the second surrounding cel was the door frame and the rest of the air shield. We laid the artwork onto a sheet of glass, backlit it and attached a motion control rig to draw the door open. We filmed the rig at the same angle as the planet dome; but the scale was different between the door and the planet, so the camera move was scaled down using the motion control computer. We filmed the air shield door in black-and-white, then gave it and the planet elements to Roger Dorney in optical.

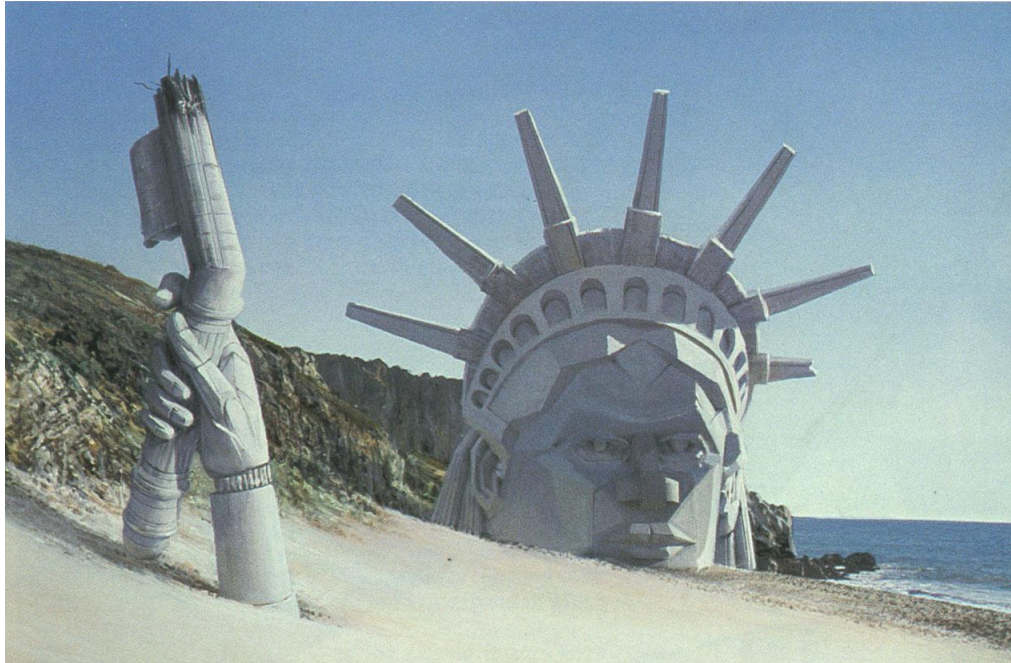
The shot was by no means finished when it left the stage. "The optical department had a large number of elements to combine," Smith continued. "The planet was shot with and without the dome, plus corresponding mattes were filmed for each of these elements. Further, the air shield door consisted of three basic elements — the door opening, the door itself and the door frame. Each of these elements had its own separate matte. So if you include the star background, there were at least eleven separate elements — not even counting the Eagle 5 and all of its elements. The shot looked simple on the storyboards, but it turned out to be very complicated."

"The air shield shots were a difficult mixed bag of elements," Dorney confirmed. "Because the door elements were flat pieces of artwork, it was tough to make them seem like part of the curved air shield. Further, the surface of Druidia had to have various levels of diffusion. The planet as a whole is soft and diffuse because of the air shield; but when the door opens, we had to have a clear undiffused portion of the planet showing through while at the same time the area adjacent is doubly diffused where the transparent door slides over the rest of the air shield. It fell onto optical to enhance the diffusion caused by the air shield and the moving door with diffusion and neutral density filtering. Further, this had to be done so that the artwork around the door still appeared sharp. These shots were painstakingly composed by our optical camera operator Jerry Pooler. The Eagle 5 complicated things further. As the ship flew in over the dome, it was properly exposed and sharp. Then, when it dove behind one edge of the door, the section of the model behind the air shield had to be softened and the exposure changed slightly. In the same manner, we also softened the engine light elements and all the matte passes. The tremendous number of elements made optical lineup a real chore for Cosmas Paul Bolger, Jr., Dennis Dorney and Richard Gilligan. After we put together the first series of these shots, Mel decided that the air shield should appear closer to Druidia — which improved the picture, but meant that we had to go back and completely redo the work."

Mission complete, Lone Starr brings his trusty ship to a landing near the castle of King Beland. "The Eagle 5 started









mounted, enabling it to roll, pan and I used our widest-angle lens to yield the sizes possible given our stage space. As i control photography, the model's mov was simulated by the camera which wa fixed-mounted ship move from one sic other. Similarly, the camera was moved I model recede, or forward to make it con this was a very dynamic move, it fell in

Illusion Arts provided the matte paint "The king's castle was a beautiful paintin commented Bill Taylor, "and Doug Smit Eagle 5 was really smooth and convinc like this would be composited in the of cating the background while printing tl it. However, we do not like to duplic duplicates always exaggerate human err sometimes contrast. In this case, instea painting and giving it to Apogee to comp Apogee gave us their model photograph mattes which were bipacked with the ur shot the painting. Then the Eagle 5 was d matted area by Mark Freund on our Vist: The result was an original negative bac

Having rescued a princess and saved a Barf climb into their Eagle 5 and prepar unknown — but not before a stop at the for a fill-up. Space Station 76 — a giant automated spaceship wash at one end a — was another creation of Illusion Arts diner started as a three-dimensional r Ledgerwood," Taylor explained. "When thing real, it solves many drawing prob a remote control articulated device at its it appear as though there were arms on spaceships clean. It was a funny image. Ly the mockup with matte paintings of fl other details. We also separately photog against a white background and then bi the camera as the painting was photc would appear to be moving through the our other shots in the film, Catherine Su for all the roto work and garbage matti precomposed on the Illusion Arts mat was then turned over to optical opera added a slow zoom-in.

While the Eagle 5 is gassing up, our h neighboring diner for a bite to eat. As one of the patrons at the end of the coi comic version of his Alien role. 1988



WITC
TRIA

Australian director George Miller demonstrates his mastery of the cello during rehearsal for a scene in *The Witches of Eastwick*. / In the film, three lonely unmarried women unwittingly conjure up the perfect male — a charismatic stranger of unlimited resources and brazen directness who wastes no time at all in embracing the trio, both sexually and spiritually. Only later do they come to realize that the man of their dreams may well be the devil. / Visual effects for the supernatural comedy were produced at Industrial Light and Magic under the supervision of Michael Owens. For the opening scene — an aerial view of Eastwick — liquid nitrogen clouds were filmed against black velvet and superimposed over a live-action background plate. / A supplemental bluescreen element — eventually deleted from the shot —

and it took about ten guys to control all the axes. We shot it motion control on a long track so we could pull back from it and also do closeup work; and we did something like a hundred and thirty-one takes of the bird over a period of three weeks. Then we stopped for a couple of weeks and came back later for another week at it. It was real hard to get it to look good because of all the human motion control work that was involved. The other problem was getting a smooth tracking shot. When we were finished, though, it truly looked like a real bird. We put some wind on it, articulated it to have it move up into frame and brought its wings up and it looked great." After much work and considerable finessing, the shot finally met with everyone's approval. However, late in the production schedule it was altered. A decision was made to run titles over the aerial shot, rather than before, and so the seagull — considered a distracting element in that context — was consequently removed.

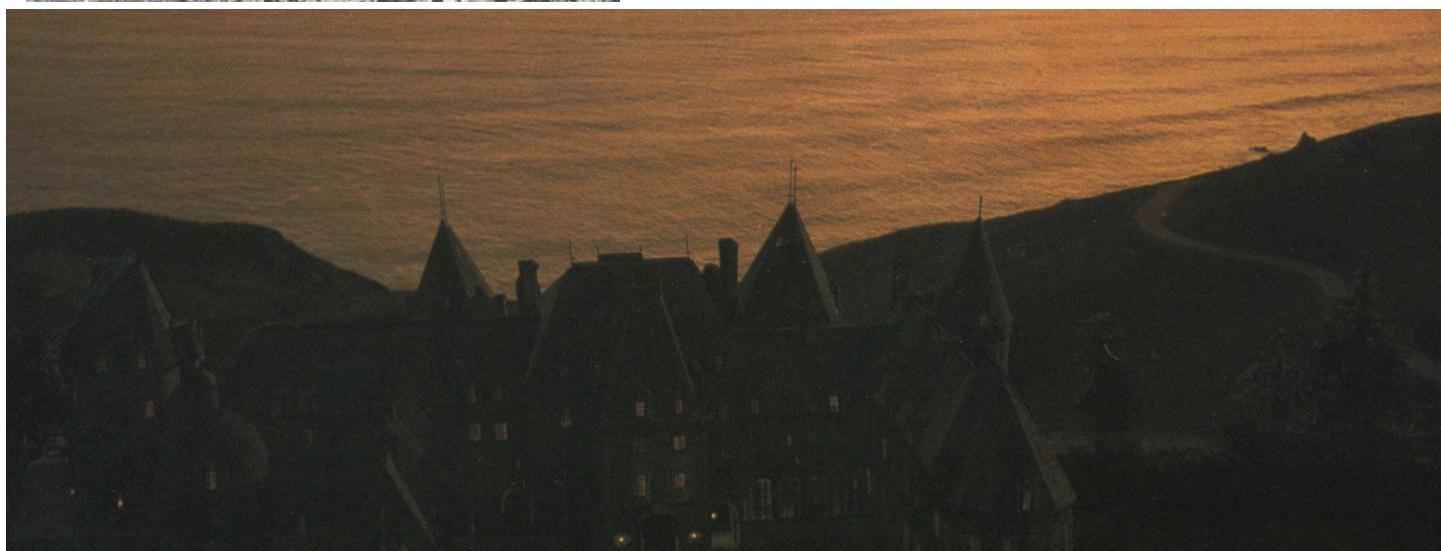
After the credits finish rolling, the action shifts to an outdoor school meeting in which a very boring speaker is engaged in a seemingly endless oratory on the importance of education. As the speaker drones on, the three witches — all in attendance, but sitting separately — look to the heavens for some kind of relief. Unaccountably, their wishes come true when from out of the blue a thunderstorm erupts and effectively drowns out the proceedings. For the initial cloud formation shots where wisps are seen coming together out of a clear sky, effects cameraman Patrick Turner filmed liquid nitrogen against black. "Pat shot with the camera aimed straight down onto black velvet," Owens recalled. "The nitrogen was fed up through a little hole in the velvet and was lit so that nothing at all was visible until it flowed out onto the velvet and started to billow. These clouds were shot at 360 frames per second and then composited into a blue sky plate." Split-screened into the up-angle shots was a portion of the school roof with a weather vane on top. "In the first shot the wind was just blowing the weather vane slightly. Then in the second and third shots it is blowing more and more, until finally in the fourth it is spinning wildly. The weather vane was just another element in the shot — subtle, but it helped."

As everyone scrambles for shelter, a wide shot of the scene reveals huge thunderheads above the schoolyard. In most films of the past decade, such clouds would have been produced via cloud tank photography, first used extensively in *Close Encounters of the Third Kind*. But for *Witches of Eastwick*, Owens opted for a different approach, turning the assignment over to matte cameraman Craig Barron and artist Sean Joyce. They in turn fashioned artificial clouds out of cotton and attached them to two six-foot-long aluminum tubes — one eighteen inches in diameter, the other ten — that were motorized to rotate. Inside the cotton clouds were flashing lights to suggest the presence of lightning within. Later, additional cel-animated flashes were provided by John Armstrong. The clouds themselves were filmed







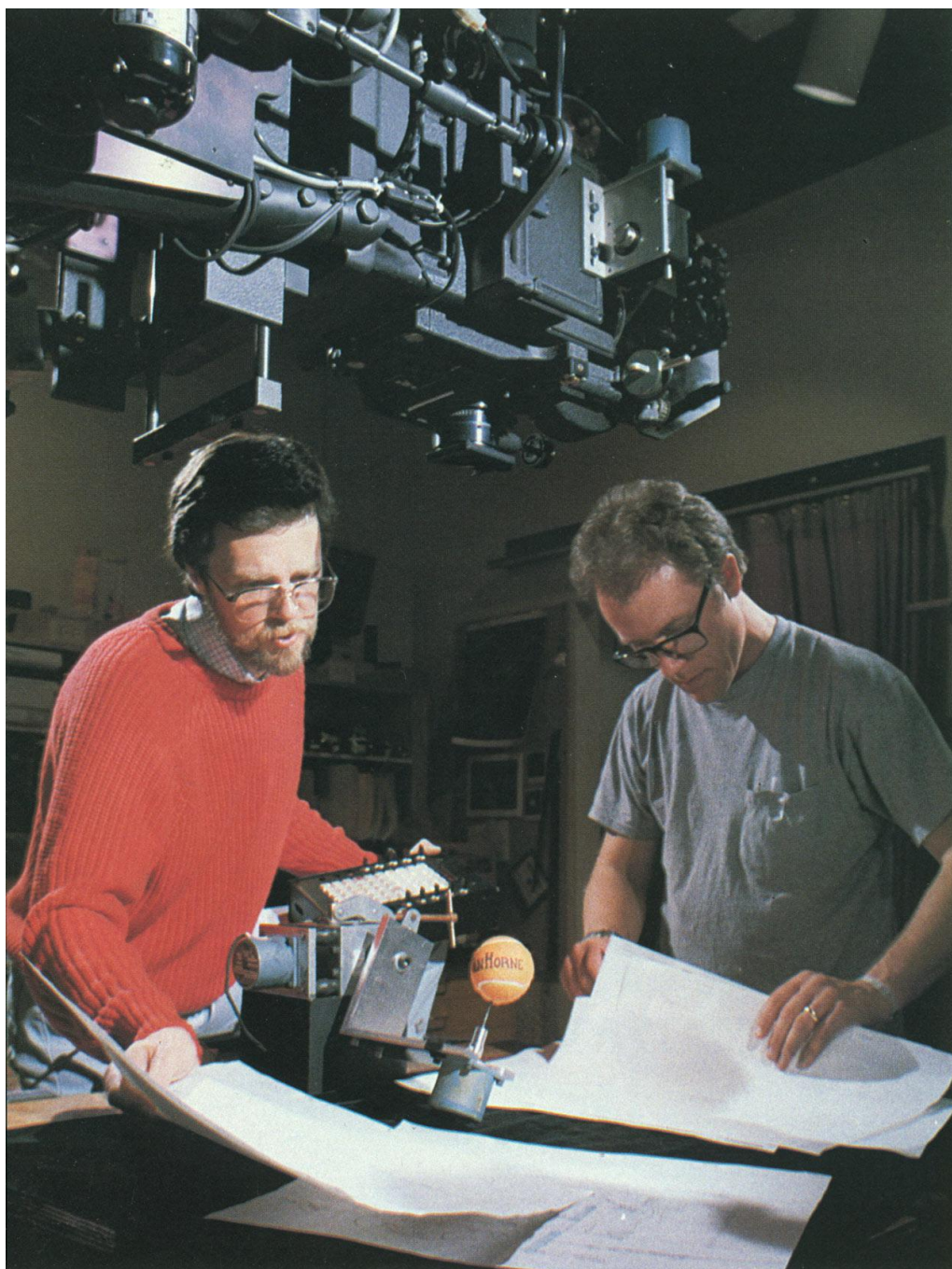


seems easy, but was incredibly difficult for them to do. Very tricky." The original intent of the scene was to have the four-some play real tennis until the ball started acting strangely. From that point, the ball would then be matted into the action. "It was a difficult location lighting-wise," said Owens, "and we already had a lot to accomplish; but on the first day of shooting, we found out that the women weren't as proficient at tennis as everyone hoped and they couldn't hold the round. So George came up to me and asked, 'Well, do you think you could shoot the real ball too?'"

On location, about two-thirds of the tennis shots were actually inserts taken of the individual actors returning volleys that were tossed to them from off camera. The wide shots of the game, however, were filmed with the actors only pretending to hit the ball. "We used a metronome and had a cadence for everybody," Owens said. "We did tests on how long it would take the ball to go back and forth on a normal volley, and then we timed all this stuff out so we knew pretty much what the cadence should be. With a PA system and a metronome that had accent beats, we were able to get the actors to perform on cue. If we wanted to accelerate the action, all we had to do was adjust the metronome to increase in cadence. Conversely, by decreasing the cadence, we could slow the game. Jack is a really good tennis player, but he was also good at mocking it. Actually, all three of the women were also quite good at hitting on the beat. Occasionally we'd have to redo a shot because somebody missed a cue — but for the most part everything went well. Oftentimes a shot that was slightly off could still be used as long as we provided an altered trajectory for the ball that maintained the proper physics. During the live-action shoot, Steve Sleaf — one of our puppeteers — was in a little video room electronically superimposing a tennis ball on top of the actors' reactions to give us a general idea of how the scene would play, especially for the stranger-looking volleys. Then we made a composite tape right on the set and said, 'Yeah, okay, that will work.' It made for quite a circus, but most of the time it was on target enough to enable us to know how the concept was playing. Once the plates were done, we had to return to ILM and figure out the timings of each shot, figure out where the actors were off from the cadence and then figure out what should happen because of that error in cadence."

To determine where the errant ball should be matted into each shot — and then translate those determinations into believable film footage — Owens turned to animator John Armstrong and animation cameraman Bruce Walters who promptly immersed themselves in the physics of tennis. "Often they'd come up to me with some interesting fact that had nothing to do with tennis per se," Owens recalled. "They'd say, 'In physics, did you know that if you do this, then that happens?' And it was







their powers — begin reviling Felicia as a potential threat to their idyllic existence. As the conversation becomes more animated and the emotions more spiteful, Daryl encourages his companions to calm down and enjoy the giant bowl of cherries he has placed before them. Across town, Felicia is suddenly overwhelmed by a strange case of indigestion. Undeterred, she continues browbeating her husband with up-to-the-minute accounts of evil-doing in the mansion, only to find herself unaccountably throwing up cherry pits — first one, then several, then a veritable torrent of them.

For George Miller, the potentially off-putting scene was simple black comedy — more akin to the humorous excesses of *Monty Python's The Meaning of Life* than it was to the nauseating disgorgements of *The Exorcist* and others that followed it. So unlike elsewhere in the film, Miller made no attempt to curtail the employment of special effects in the sequence. Quite the contrary, in fact. "What we wanted was a bit of grotesque humor. On the one hand, you're meant to feel sorry for Clyde and Felicia; but at the same time, part of you is still laughing. It was a tricky line to play — and eventually we did cut back on some of it, simply because there is a visceral reaction to vomiting that prevented quite a lot of people from enjoying the rest of the film."

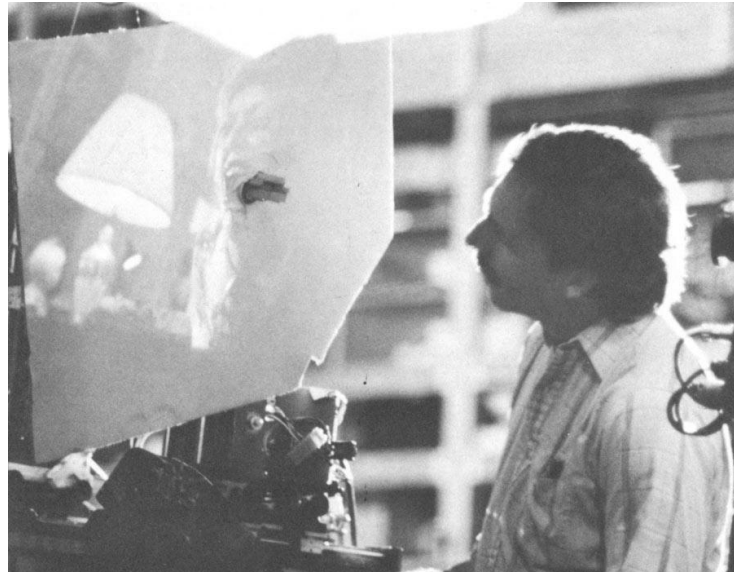
Early shots in the sequence were filmed with Cartwright pretending to regurgitate cherry pits into her mouth. Then, for a subsequent shot in which the vomiting intensifies, plates were shot of her mimicking the action so that a stream of cherry pits could later be matted into the scene. "We shot the plate with Veronica doing her bit," Mike Owens explained. "Then Pat Turner roto-scoped it through the camera to determine the exact moves the actress made. Next we set up a funnel or a tube against black — so we could generate a contrast matte — and match-moved the tube using motion control equipment. The camera was set up in the same angle it had been on the live-action stage and the hose spewing forth the vomit was literally motion control plotted to her mouth movements and then shot in real time." Once completed, the explosive vomiting effect went to optical where it was matted in over the background plate.

In addition to the ILM work, makeup effects artist Rob Bottin was commissioned to create a lifelike mechanized Felicia for several even more elaborate scenes. "We started out by making lifecasts of Veronica Cartwright," Bottin explained. "She was terrific, a real determined professional. It was funny, though. She's such a good actress that she felt it was important to think about what kind of face she would make if in fact she were going to vomit. So what she did was spend time thinking about it."

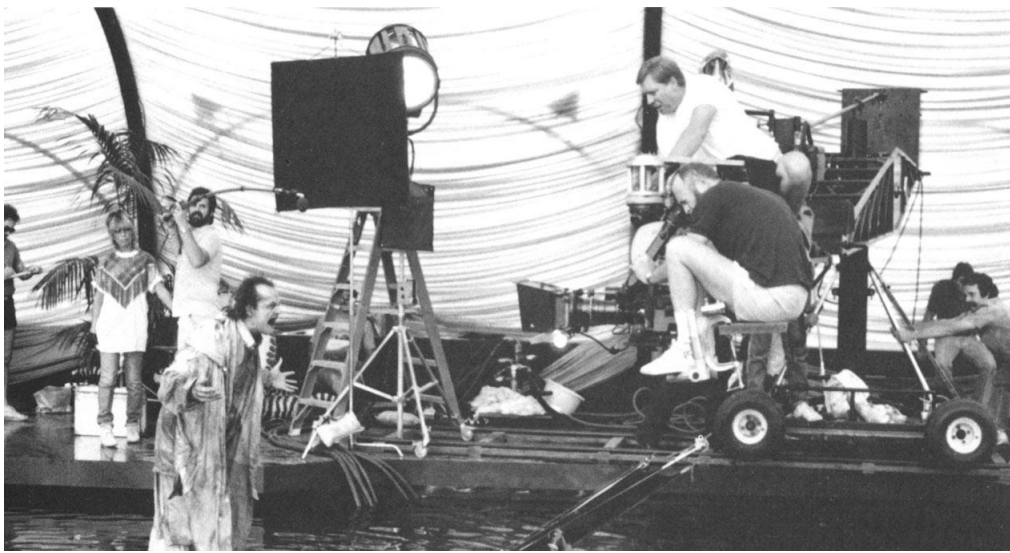


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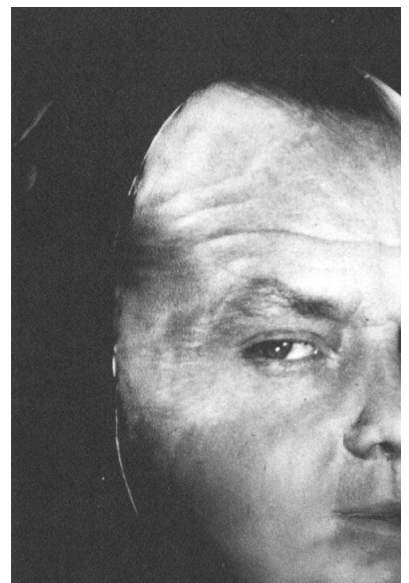
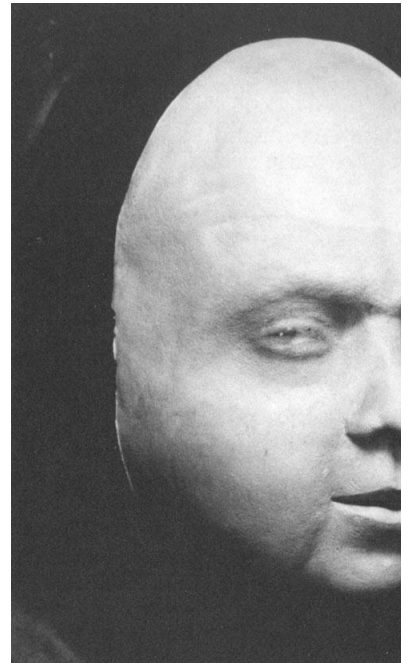
Creating a tiny demon with a baby face that somehow looked distinctly like Jack Nicholson — particularly through the eyes — was a major assignment. Borrowing an idea from Disneyland, a relatively featureless bust was sculpted and cast with the idea of using it as a projection surface. / Then Jack Nicholson was photographed with his head totally immobilized so that the footage thus obtained could be projected directly onto the frozen facial sculpture. / Using a slide projector, Mike Owens tests the feasibility of the approach. / Once the idea proved successful, the full creature was constructed in rod puppet form. / When photographed, the head had to be locked off since the giant Vistavision projector could not be easily moved. Consequently, the required head-turning action had to be implied by rotating the camera around the figure at the same time its body was being twisted in the opposite direction. Also, since the shot was an optical element, the blue

could judge it was to use Michael's polaroid camera — which also helped us get the blend line that we needed. We probably took a hundred polaroids of it, just polaroid after polaroid. Then we'd make adjustments — change the paint job slightly or maybe iris the projector down. Also, when we came around on the puppet we had to iris the intensity of the projection because at one angle it was a backlight and at another angle it was a frontlight." Successfully recorded on film, the bluescreened creature was then precomposed into the background plate and turned over to the animation department where a shimmering aura was added. "It was a challenging shot — one that had to fall together just right. I think it works very well. You don't really know what you're looking at until you see the face. When you see his face you say, 'God, that looks like Jack Nicholson.' Then he moves his eyes — and that's when it really makes you shudder because it's obviously him and it's very creepy."

Animation was also employed to produce the creature's final moments on film. Having turned and smiled at the women, the tiny figure suddenly shrinks to nothingness and disappears into the cosmos. "The shrink-down was done in collaboration with Bruce Walters," John Armstrong noted. "He took the image of the little creature and on the pin-block matched it up with the frame that had been chosen as the last one before the shrink. Then he did a quick six-frame zoom so that it went from real-size down to a little dot in a quarter of a second. From there, I took it and did some good old-fashioned animation of what I guess you could describe as a bubble bursting."

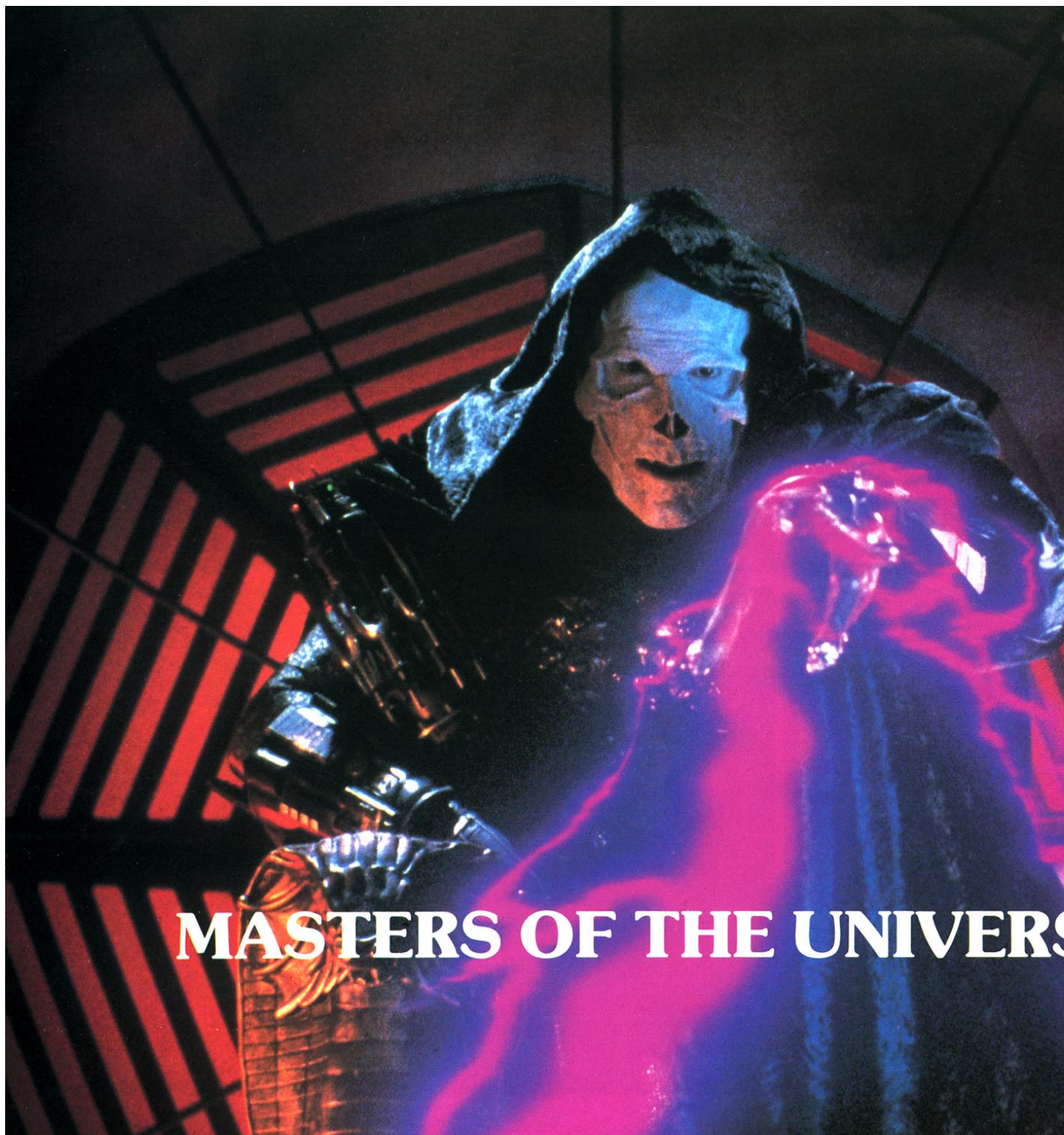
With the devil conquered — or at least sent away for a while — *The Witches of Eastwick* comes to a close. For Industrial Light and Magic, the film was a welcome change of pace — an adult comedy with strong performances that used its effects sparingly and could just as easily have done without them. "The film has a really light touch," said Warren Franklin. "We filmed a lot of material using the puppet and doing a lot of transformations that did not ultimately make it into the movie — but that's because it's a very impressionist film. The way George Miller edits things, he will take a little moment and just give you an impression. The effects he used might not appear to be as complex or as supernatural as what we gave him, but they certainly work in the context of his film. I think George found a really good balance between the comedy and the horror."

"ILM certainly made a major contribution to the movie," Miller concluded, "and it's not hard to see why. What they have there is a hotbed of creativity. I love the cross-fertilization that goes on. They have really busy and energetic dailies, and everyone's there. And for me, it was wonderful to hear them say almost consistently: 'We'd better be careful. We don't want to go too far here. We don't need that many special effects.' These are people who are not just trying to show off their wares. They're uniformly creative and expansive, and they work well









MASTERS OF THE UNIVERSE

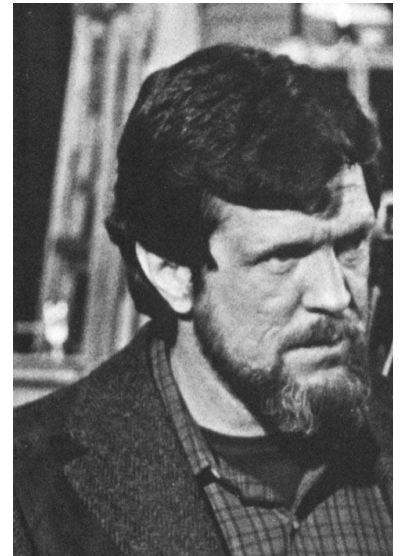
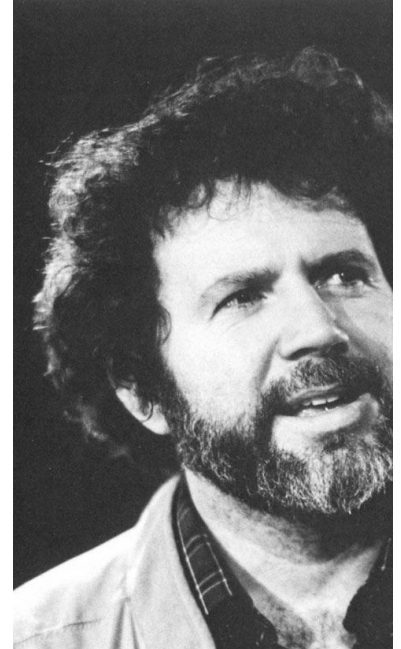
Director Gary Goddard surveys a scene during principal photography on Masters of the Universe. / Visual effects for the lavish fantasy adventure were produced at Boss Film Corporation under the supervision of four-time Oscar winner Richard Edlund. / When the utopian world of Eternia is overrun by the evil forces of Skeletor, He-Man (Dolph Lundgren) — the most powerful warrior in the land — assembles comrades Man-at-Arms (Jon Cypher) and Teela (Chelsea Field), and together with elfin inventor Gwildor (Billy Barty) sets out to rescue the benevolent Sorceress of Castle Greyskull. / Cast in the role of Skeletor was actor Frank Langella, whose facial features were essentially obscured behind makeup appliances devised and fabricated by Michael Westmore. / Production designer William Stout was almost singlehandedly

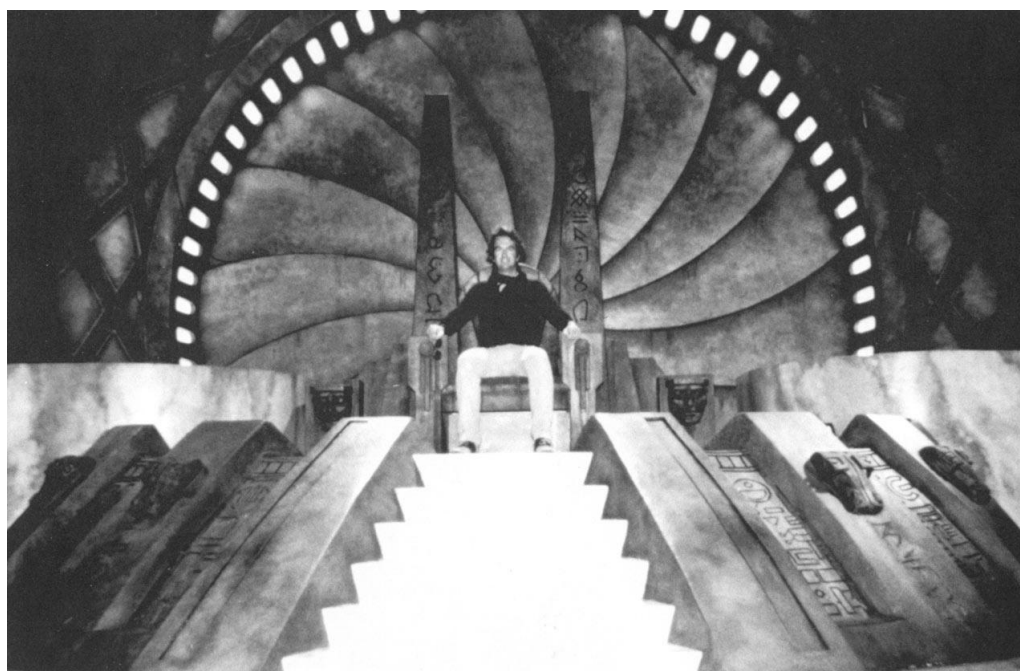
challenge of his professional career. "One of the reasons I took it was that I figured if I could do a multimillion dollar effects fantasy film with only two months' lead time, I could do anything. Normally on a film of this scale and subject matter, I'd have had a year to two years of preproduction. For this film, I ended up doing over two hundred paintings — most of which I began in the first two months. I knew that it was inevitable that the design work would overlap the shooting — and it did. I was designing prior to shooting and all the way through, up until the last week."

Assisting Stout in the initial design chores was famed fantasy illustrator Jean 'Moebius' Giraud, whose talents Stout felt very fortunate to have acquired. "I was really lucky to get Moebius to work on the film. He did some incredible designs, including initial concepts for Castle Greyskull, He-Man's costume and the Sorceress' costume. He also designed Gwildor's staff and the flying discs that are featured late in the film. Even the stuff that didn't get used was a great inspiration to me, and I was able to apply aspects of that work to other designs not directly connected to what Moebius had worked on."

As production designer, one of the first tasks Stout addressed was the cinematic translation of the 'Masters of the Universe' characters and costumes. Though seemingly simple — since Stout was obviously working from already established material — it was in fact one of the most difficult aspects of the project. The basic designs Stout had to work from looked silly — after all, the inspirational characters were essentially mass-produced six-inch-tall dolls — yet Stout's redesigns had to conform in some recognizable sense to Mattel's original concepts. "The idea was to keep the essence of the characters while making them believable. I saw this as a chance to make the characters more three-dimensional, to flesh them out. It was an opportunity to give each character a history, a sense that they had a past and a background so that they would seem real to us and therefore become real to an audience. The toys themselves were not believable — after all, they were never intended to be movie characters. Primarily, they were designed with economics in mind so that Mattel could take different heads, put them on different-colored generic bodies and create different toys. Obviously, we couldn't do that."

Working against a rapidly approaching start date, Stout incorporated each character's costume and makeup design into a single painting so that the various costume manufacturers and the makeup effects team could have time to complete their work before filming began. "I tried to do everything in one picture," Stout explained, "so it would all appear to be cut from the same cloth. Usually I would do an entire head-to-toe study of each character, including costume and makeup, and I would then send color xerox copies of these paintings to the costume









In addition to Skeletor, makeup supervisor Michael Westmore and his crew were responsible for creating several other characters, including three of the alien warriors sent to earth to locate and capture He-Man and his compatriots. Among them was Saurod — an iguana-like biped in armor and chain mail with an inflatable throat and a radio-controlled tail. / Another of the aliens was Karg — Skeletor's principal henchman — a hyena-like creature with long straggly hair and a hook for one arm. / The last of the three — and most complex in terms of appliance application — was the savage and fearsome Beastman. / Sharing center stage with Skeletor as the most prominently featured of the Westmore creations was Gwildor — a

designed the inner core in such a way that we could place a bladder inside the loose folds of the neck. Then, for the breathing effect, we ran a tube from the bladder into the actor's mouth so that he could motivate it himself just by blowing into it. It worked really well. In fact, there were times when he was just fooling around that he would blow that sucker up so big we thought the throat was going to explode."

On his conceptual illustration for Saurod, Stout had drawn an insert panel showing what the character's eyes should look like, never dreaming that Westmore would have contact lenses made that surpassed his greatest expectations. As is often the case with Hollywood productions requiring special contacts, ophthalmologist Dr. Morton Greenspoon was commissioned to produce the scleral glass lenses for Saurod. "Once they were made to size," said Westmore, "he sent the lenses to England where some artists who paint Wedgwood china hand-painted them. They're unbelievable pieces of artwork. The colors are completely opaque, but the artists left open a clear window in the center of the iris so the actor could see. The colorization and blending in the pupils was absolutely gorgeous." Though rejected for Gwildor's ears, radio-controlled servos did find their way into Saurod's tail. "The tail was attached to a harness that the actor had to slip into before he got into the rest of his costume. Again, my son Michael operated the mechanics — which were designed by Doug Beswick and consisted primarily of a metal skeleton frame that ran the length of the tail. The tail had a reptilian snap to it, and it was based somewhat on the plastic snakes you can buy in toy stores. The articulation was wonderful. There were three servo motors inside. Gary would move his hand around and Michael would follow his movement, making the tail whip back and forth or up and down by moving a little lever on the control."

Besides these complex prosthetic makeups, Westmore also had to execute several nonprosthetic fantasy makeups, as well as some nonfantasy prosthetic pieces. "There was more to this movie than just the creatures — other fantasy characters like Evil-Lyn, for example, whose makeup was extensive but did not involve appliances. Bill would come up with designs and then we'd go to town with them. I also had to have all the wigs made for the film, the most difficult of which was for Christina Pickles as the Sorceress. For that character, I had to find a wigmaker who could make a floor-length wig. You can't just go out and buy hair six feet long, so they literally had to make a silk ladder onto which the hair was attached to give it the appearance of extending that far. Also, while the Sorceress is imprisoned in the energy field, she undergoes a rapid aging process that involved five stages of prosthetics."

While Westmore and the costumers were busily outfitting the denizens of Eternia, Bill Stout was designing and supervising construction of the sets the Eternians would ultimately people

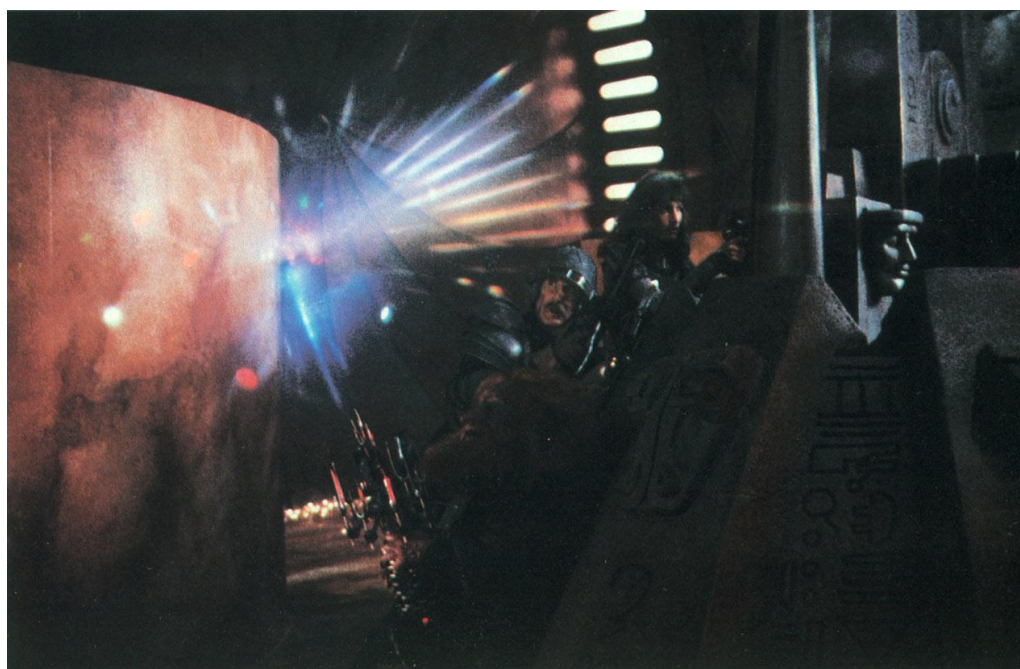


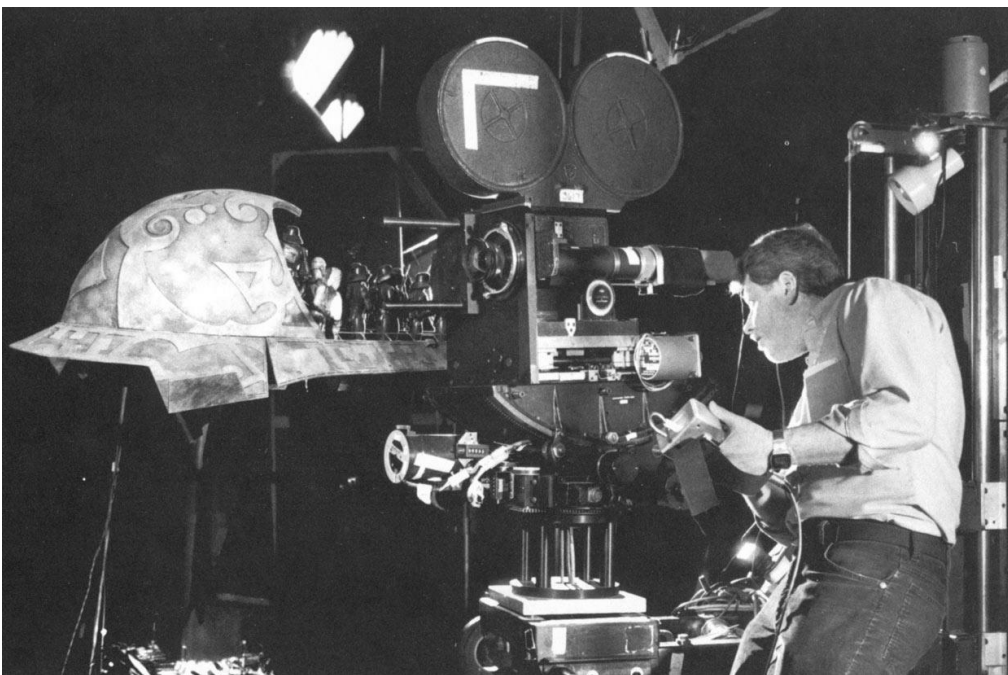












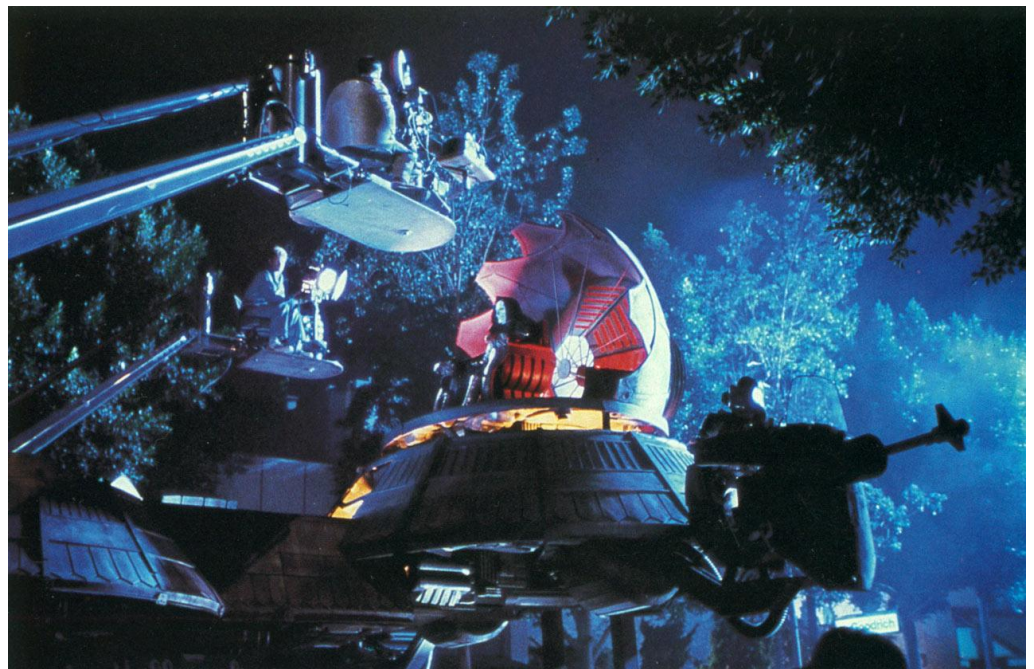
allowed a fair amount of artistic liberty designs — except when it came to the construction difficulties inherent in the design. An easygoing fellow — felt strongly that the structure needed to be rendered in precise accordance with the approved design by artist Edward Eyth. "I started," Stout recalled. "The first question was about altering the look of the cosmic key. I made a list of things they wanted to alter; and I didn't want anything to change in Edward's design. So I had to be this hard-assed bad guy. From the beginning, and I was very much worried about thinking, 'How are we going to deal with the cosmic key was so crucial — it was a vital prop in the film — that it had to be designed it. Fortunately, they were able to build it.'

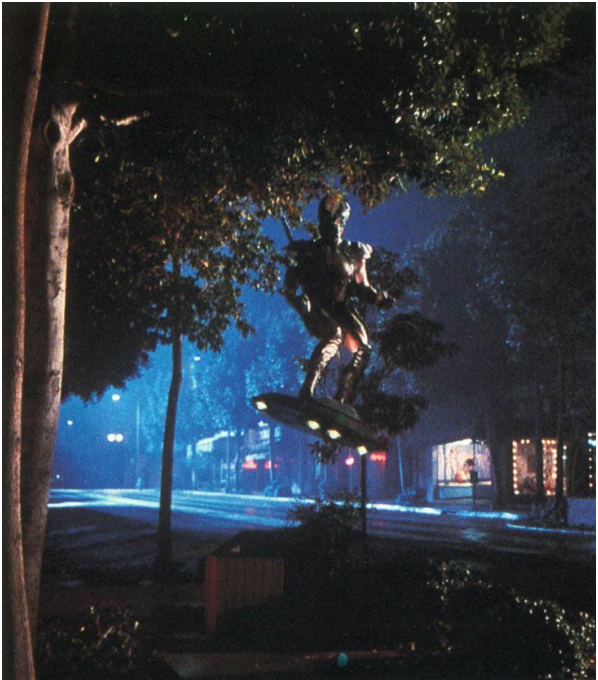
Eyth's drawing of the cosmic key depicted a barrel whose top was covered with rubber tuning forks whose top ends whirled about each other like an eggbeater. The fact that Eyth's original design left little room for a long body to place the complex mechanism to perform to specifications. "We did it slightly," admitted Stuart Ziff, who alone designed the internal mechanisms, "but I have no credit — he really pushed us to hold it together. Our main problem was getting everything to work. Our main problem was getting everything to work. Our main problem was getting everything to work. We couldn't make a lot of different versions to do everything. We made six keys all of the different types — Gwildor's and Skeeter's. Both were operational and linked via cable to a console. Both were self-contained and battery operated. Both worked around, but only the lights on it worked. We also made a rubber version that could be used as a backup. Gwildor's key was supposed to be the primary, but the finished product, they both looked like they were the same. They both had eight forks on the main cylinder that had to be able to pirouette on a merry-go-round — so they had to be able to rotate by a mechanism that I built. In addition, we had three forks on top that had to deploy up themselves, and then that whole group had to rotate. Phil Notaro worked on that, and I worked on that. Phil and me in building the mechanism had to fit all the electronics that would

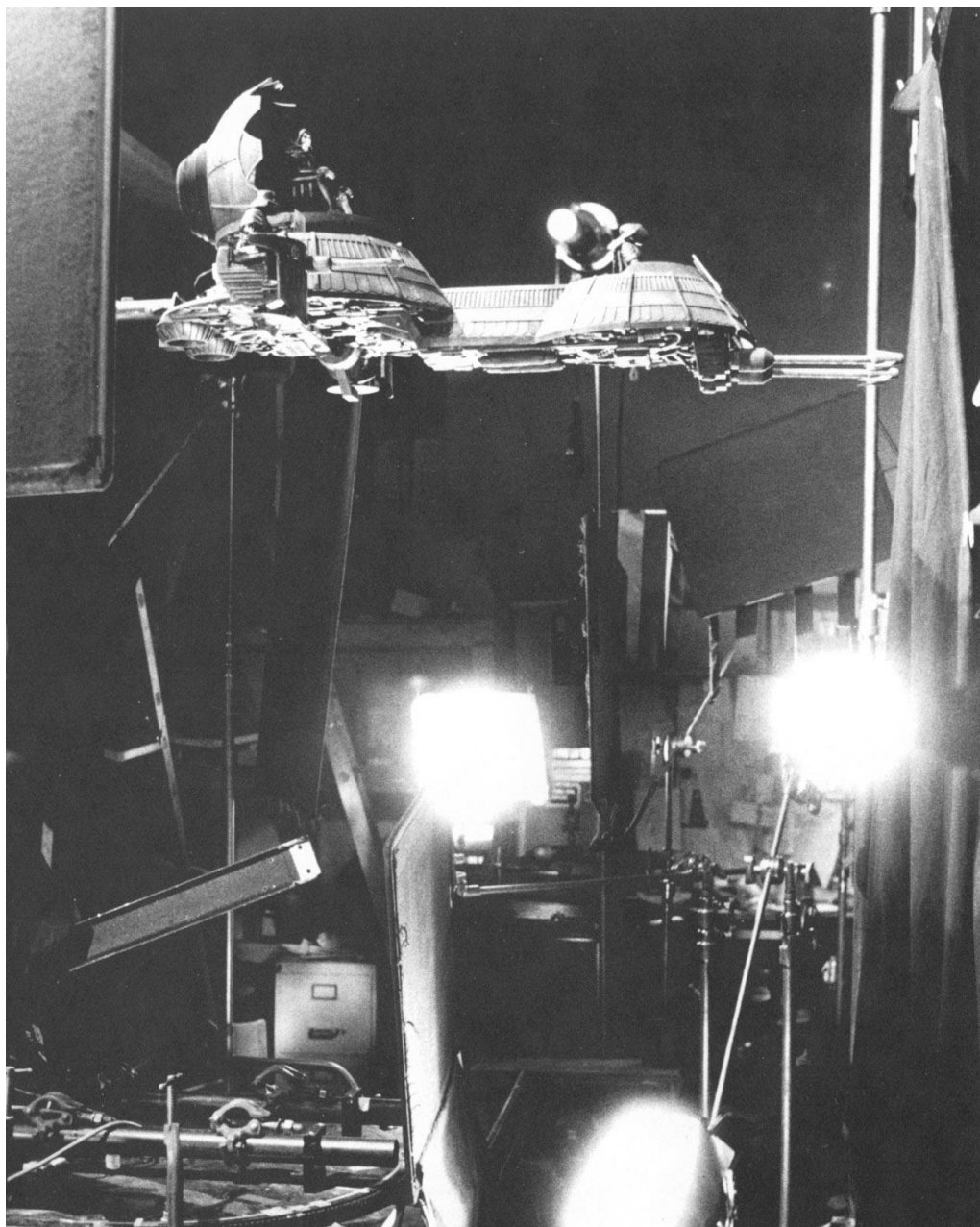


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Eyth's drawing of the Cosmic Key depicted a barrel whose top was covered with rubber tuning forks whose top an array of tuning fork-type tuning forks whirled about each other like an eggbeater. The fact that Eyth's original design left little room for a long body to place the complex mechanism to perform to specifications. "We did s







around-the-clock work schedule had to shift; Seldon would puppeteer while can tographed the requisite bluescreen el Don Baker would both shoot *and* puppet the units was of prime concern. "We wan in terms of overall lighting, fluidity of r Beck explained. "Don and I passed stuff eventually created a generic lighting sel Don's dailies as well as my own to see if ing— but it wasn't always easy to tell. screen photography, it's often difficul going on in the shot because there's n the action of the puppet to. All I'd see w man flying about on screen with a pai face. So it was hard to judge just how w fit together. What I went for most was puppet really trying to control his disc to concentrate on the kinds of moves be There was a certain kind of knee bend their bodies twisted, that looked very Nick changed the mounts to try and ac frame rate, he put the rods in places wl leverage to make the puppets perform sible. Terry Windell and I used some ter and skiing to describe the kinds of puppets to make, so he and Don and I exactly where the puppet should 'put hi 'duck down into the wave.'"

As visual effects editor, Dennis Micha massaging the various elements to be cific shot until everything came togeth the pressures and problems associated sequence, Michaelson had his hands fi and repositioning the puppets so that background plates. "I had to work out th to coincide with the reactions of the li shot; but sometimes the size and positi came from the stage was not correct, so a valuable editorial tool in these instar basically like an animation stand with trol movement north, south, east and w in and out for blowup or reduction, a move or a tilt-down shot and it'll look lik This really came into play in the air cen I used it to augment moves and to put we needed into a given shot. Once I ha their moves, their relation to other elen all had to be precomped and sent up to a lay in the lasers from their weapons."

In keeping with the rest of the show

